

NOMENCLATURAL NOTES ON *HESPERETHUSA CRENULATA*
(RUTACEAE)

In his monographic study of *Citrus* and allied genera (i.e. Rutaceae subfam. Aurantioideae), Swingle (1943) recognised *Hesperethusa* M. Roem, a monotypic genus with *H. crenulata* (Roxb.) M. Roem., a native of tropical Asia, as the type species. This name has been retained since by a number of authors, as for example, Carpenter and Reece (1969). Only recently, Nicolson (1976) has proposed a new combination of the species epithet with the genus *Naringi* Adanson (1763), adding in a note that "the proposal to conserve *Hesperethusa* Roemer (*Taxon* 18: 467, 1969) failed (*Taxon* 19: 816, 1970)".

While working at Kew during 1975 I had studied the nomenclatural status of *Hesperethusa* versus *Naringi*, and availed the benefit of consultations and discussions with Dr. W. T. Stearn and Dr. R. K. Brummitt, and had come to a similar conclusion. I attempt here to clarify in full the long history of nomenclatural confusion which has necessitated resuscitation of the genus *Naringi* Adanson after a lapse of some two hundred years.

The initial confusion arose, as so often happens, with Linnaeus confusing more than one species in his *Species Plantarum*, 1753. Under *Schinus limonia*, which was renamed *Limonia acidissima* in the second edition in 1762, he took the phrase name directly from his earlier *Flora Zeylanica* where he had previously given a detailed description of vegetative and floral parts. Types of names originating in *Flora Zeylanica* are generally considered to be specimens in the *Hermann* herbarium at the British Museum (BM), but in this particular case the specimens (vol. 1, p. 76, two separate twigs, and vol. 2, p. 8, one twig) are all

sterile and are presumably not the material from which Linnaeus drew the description of the flowers. Examination of the several other publications cited in *Flora Zeylanica* fails to reveal any that could have provided the floral characters given. Swingle (1914) pointed out that there are two flowering twigs on one sheet (550.2) bearing the epithet *Limonia* in the Linnaean herbarium, but according to Dr. W. T. Stearn, (personal discussion) there is no chance that this sheet was in the Linnaeus's hands before 1747, and the derivation of the floral description remains a mystery. In the circumstances Dr. Stearn suggested that formal selection of a lectotype was advisable, and that since the diagnostic phrase name refers only to vegetative characters, the choice of one of the sterile *Hermann* specimens is entirely appropriate. I make this formal lectotypification here and select the single twig in the *Hermann* herbarium vol. 2, p. 8 as the lectotype of *S. limonia* L. This choice is, in fact, in accord with the assumptions of previous workers. As Swingle has said, all the *Hermann* specimens, and those in the Linnaean herbarium, represent the plant widespread from India and Ceylon to Indo-China and commonly known as the Wood Apple.

However, in synonymy under *Schinus limonia*, Linnaeus quoted the synonym "Tserou Katou Naregam" of Rheede's *Hortus Malabaricus* Vol. 4, giving the reference as t. 12, which in 1762, in his *Species Plantarum*, 2nd edn., he referred to t. 14 and renamed *S. limonia* L. (1753) as *Limonia acidissima* L. But t. 14 is a good illustration of quite a different plant later to be called *Hesperethusa crenulata* (Roxb.) M. Roem. Because of this, the name *Limonia*

acidissima was invariably mistakenly applied to this plant for well over a hundred years, despite the fact that the species does not occur in Sri Lanka (Ceylon), while the Wood Apple itself became known as *Feronia elephantum* Correa.

This misapplication of the name *Limonia acidissima* was first pointed out by Trimen (1887: 142) in his critical consideration of the plants in the Hermann herbarium, when the plant hitherto mistakenly known by this name was correctly said to be *Limonia crenulata* Roxb. The latter name was later used again by Trimen, Handb. Fl. Ceylon: 223 (1893) and was taken up, for example, by Gamble, Fl. Pres. Madras 1: 112 (1915). Swingle (1914) fully supported Trimen's comments on the typification of *Limonia acidissima*, but he regarded *L. crenulata* as generically distinct and took up the combination *Hesperethusa crenulata* (Roxb.) M. Roem., which had in fact been proposed as early as 1846 but had seldom or never been taken up since. But despite the undoubtedly correct interpretation of *Limonia acidissima* by both Trimen and Swingle, the name continued to be used in the wrong sense well into the present century. For example, Guillaumin in Lecomte, Fl. Indo-China, 1: 665 (1911), Haines, Bot. Bihar & Orissa: 163 (1925) and Craib, Fl. Siam, Enum. 1: 229 (1926), all use *Limonia acidissima* for what Swingle called *Hesperethusa crenulata*, and peculiarly, even Gamble reverted to this error in full knowledge in his Man. Indian Timbers, ed. 2 (1922) with the comment: "as this is not a critical botanical work I prefer to adhere to the old name" see also Panigrahi, 1977.

The name *Hesperethusa crenulata* became well established in 1943 when Swingle published his monograph. Unfortunately, however, he had overlooked the facts not only that the name *Hesperethusa* M. Roem. is illegitimate, since the original circumscription of the genus included *Limonia acidis-*

sima, the type of the earlier generic name *Limonia*, but also that there is an earlier generic name available, *Naringi* Adans., 1763. The latter name was clearly based on Rheede's "*Tserou katou Naregam*", the illustration of which Linnaeus had confused with *Limonia acidissima*, but was overlooked until publication of the painstaking research of Dandy (1967). Dandy subsequently (in *Taxon* 18: 467. 1969) proposed conservation of the name *Hesperethusa* over *Naringi*, but this was rejected by a vote of 3-8 by the Committee for Spermatophyta (McVaugh in *Taxon* 19: 816. 1970). The correct name for the genus *Hesperethusa* M. Roem., Syn. Monogr. 1: 31, 38 (1846), as interpreted by Swingle, is thus now *Naringi* Adans., Fam. Pl. 2: 341, 581 (1763), and a new combination at specific rank viz. *Naringi crenulata* (Roxb.) Nicolson has been made. The citations are as follows:

Naringi crenulata (Roxb.) Nicolson in Flora of Hassan District, Karnataka, India: 387. 1976. *Limonia crenulata* Roxb. Pl. Coromand. 1: 60, t. 86, 1798. (Type: the illustration, t. 86, accompanying the protologue). *Hesperethusa crenulata* (Roxb.) Roemer, Syn. Monogr. 1: 38. 1846. *Limonia acidissima* auctt. mult. (J. D. Hooker, Fl. Brit. India 1: 507. 1875, non L. 1762). *Feronia limonia* sensu Stewart, Fl. W. Pakistan: 437. 1974, non (L.) Swingle.

Distribution: India (Himachal Pradesh to Madras and eastwards), Burma, Laos, Khmer Republic and Thailand. Records from Hainan appear to be mistaken, the plant being *Murraya alata* Drake (Merrill 1930: 327).

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ON THE IDENTITY OF THE SUB SPECIES OF *IPOMAEA PES-CAPRAE* (LINN.) SWT. IN INDIA

Ipomaea pes-caprae (Linn.) Swt. is reportedly occurring throughout India, abundant especially near the coasts. The author, in the course of his taxonomic studies, collected two distinct types of the above species. One of them, which has a preference for coastal regions, fully agreed with *I. pes-caprae* (Linn.) Swt. (*I. biloba* Forsk. F. B. I. iv: 212) described in the Flora of the Presidency of Madras by J. S. Gamble. The other type which is abundant in the coastal as well as inland areas was identified at Kew as *I. pes-caprae* sub sp. *brasiliensis* (Linn.) Oostr. On consulting Flora Malesiana (1/4: 475-477, 1948-1954) the author came to understand that *I. pes-caprae* consists of two subspecies viz. *I. pes-caprae* sub sp. *pes-caprae* and *I. pes-caprae* sub sp. *brasiliensis* (Linn.) Oostr. Of these two subspecies the first is the one described in the Indian Floras as *I. pes-caprae* (Linn.) Swt. The second is an addition to the Indian Flora.

Both these subspecies are abundant in Kerala State. As there are a number of well defined and clearly discernable characters of distinction between the two, it is easy to distinguish them.

On the basis of studies made on fresh specimens collected from different parts of Kerala and herbarium specimens in different Herbaria, MH including, the author has

noted the following characters of distinction between the two. For the benefit of Indian taxonomists these differences are given below:

<i>I. pes-caprae</i> sub sp. <i>pes-caprae</i>	<i>I. pes-caprae</i> sub sp. <i>brasiliensis</i>
1. Leaves deeply lobed at the apex at an obtuse or sub-acute angle	Leaves emarginate at the apex
2. Lateral veins prominent and parallel	Venation typically reticulate
3. Flowers purple-red	Flowers purple-red or pure white
4. Outer sepals smooth to slightly wrinkled	Outer sepals prominently wrinkled
5. Ovary basally 4-celled ; stigma 2-lobed	Ovary basally 4- or 6-celled and stigma 2- or 3-lobed
6. Seeds covered with thick long tomentum	Seeds covered with very short tomentum

Two herbarium sheets of *I. pes-caprae* sub sp. *brasiliensis*, 4950, January 1974, Quilon, Kerala State and 4990, April 1974, Punalur, Kerala State, both collected by the author have been deposited in the Herbarium of the Southern Circle of the Botanical Survey of India, Coimbatore (MH).

Herbarium specimens examined: (*I. pes-caprae* sub sp. *brasiliensis*) Cochin, Kerala State, P. T. Tommy, 94266, November, 1932 (MH); Tellicherry, Kerala State, T. Gopala Rao, 88128, September, 1945 (MH); Quilon, Kerala State, D. Dannel, 93590, May, 1949 (MH); Kaladi Range, Kerala